

Impact of Changing Consumer Preferences on Willingness-to-Pay for Beef Steaks

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Introduction

The demand for beef has trended downward during the past decade. This decline in demand can be attributed to changes in relative prices between beef and other meats and changes in the lifestyles of consumers, including health and convenience related factors. Marketing efforts of competing meats, particularly poultry, likely have contributed to the reduction in market share for beef.

Centrally prepackaged or case-ready beef has been considered by the beef industry as a means to react to the challenge from competing meats. Specifically, vacuum skin packaging (VSP), an alternative to the traditional over-wrapped styrofoam tray (OST) packaging, has potential because of its properties to better preserve and protect the product and its adaptability to large-scale use in the beef industry. The VSP offers many favorable attributes to the consumer including leak-proof package, visibility of the meat, and longer and more convenient at-home

storage. The unusual appearance of the meat is a limitation of VSP. Beef in this package type is not the familiar bright red color but has a natural purplish color. However, when the meat is reexposed to the oxygen contained in the air, the color changes to the familiar bright red.

Objective

The objective of this study was to identify how perceptions of selected attributes of beef steaks, individual consumer demographic characteristics, and perceived changes in purchases of substitute meats affect willingness-to-pay for beef rib-eye steaks in both the OST and VS packages. The results of the analysis should be useful in developing merchandising strategies and new products for beef and in developing marketing strategies for vacuum-packaged retail beef.

Procedures

The data used for the analysis were collected from two locations, Denver and Los

Angeles, during May and August 1989, respectively. Each individual participating in the study was asked to complete a questionnaire eliciting his or her concerns or dissatisfactions with selected characteristics of beef steaks. The characteristics covered a broad cross-section of concerns including convenience, health, and quality of beef. Study participants also indicated the manner in which their use of poultry, pork, and fish had changed in the three years prior to the study. Demographic characteristics also were obtained from each respondent.

Willingness-to-pay data used in the analysis were obtained via a laboratory experimental auction, which was conducted after the questionnaires were completed. Participants, in groups of eight, bid for the right to select rib-eye steaks from a display case after the auctions were completed. Individuals winning the auctions for rib-eye steaks in the OST or VS packages were obliged to pay for the steaks. The amount paid varied according to the outcomes of each auction. The auctions were conducted under three information treatments: no information about the VSP; information about the benefits of VSP; and a demonstration of opening the VS package and observing how the color of the meat changes to the familiar bright red.

The analytical model related each participant's willingness-to-pay for steaks to concerns regarding the attributes of steaks; individual demographic characteristics; perceived changes in use of poultry, pork, and fish; and the type of information given to the study participants about the VSP. Bids for each package type were analyzed separately so as to determine the impact of the factors identified above on each package independently, as well as to determine whether the impact of these factors differed depending on the package type. A Heckman two-step procedure was used to estimate the model to account for censoring of the dependent variable, i.e. zero bids. The total number of observations included in the analysis, after eliminating incomplete questionnaires, was approximately 630.

Major Findings

Health related concerns negatively affected the willingness-to-pay for rib-eye steaks in both the OST and VS package types. For both package types, the cholesterol concern significantly reduced the willingness-to-pay for rib-eye steaks. Demographic variables played a key role in explaining variation in the willingness-to-pay for steaks in each of the package types. Individuals reporting increased purchases of poultry bid significantly less for steaks in both package types.

Information pertaining to the VSP, and the beef in the VSP, significantly increased the willingness-to-pay for steaks in both package types, but the bids were significantly higher for beef in the VSP as compared to the OST. Information plus the demonstration of opening the VSP increased the bids for beef in this package type. However, there was no significant difference between the coefficients associated with the information and information plus demonstration treatments, suggesting the demonstration is not necessary.

Implications

The results suggest health related factors, particularly the concern about cholesterol, reduced the willingness-to-pay for beef rib-eye steaks, regardless of package type. Overall, these results lend support for the recently initiated Beef Industry Council promotion campaign which features endorsements from health professionals. The development of new beef products capitalizing on the desirable attributes of competing meats, particularly poultry, is important. For the VSP to be successful, information about the package and the color of the meat in the package is necessary, while a demonstration of beef returning to a bright red color after being reexposed to oxygen may not be needed. Several of the demographics variables were significant in explaining the bids, suggesting the potential for market segmentation merchandising strategies for the beef industry.

